

ABSTRACT

A filter may comprise a plurality of pleats, at least one pleat including a pair of pleat legs and pleat tip region. In some embodiments, a thickness of pleat tip region at a point spaced about one to four pleat leg thicknesses from the end of the pleat tip region may be less than or equal to about twice the pleat leg thickness or may be less than or equal to a distance between corresponding points on opposing outer surfaces of the pleat legs. A filter may comprise a pleated structure having a plurality of pleats. In some embodiments, the pleated structure may have more than one layer and at least one of the pleats may have a reformed pleat tip region. In other embodiments, the pleated structure may have a pair of pleat legs and at least one of the pleats may have a reformed pleat tip region and contacting pleat legs. A filter may comprise a plurality of pleats, at least one pleat including a pleat tip region having contacting inner surfaces. A method of making a filter may comprise forming a plurality of pleats having pleat tip regions and applying pressure to opposing outer surfaces of at least one pleat tip region. A method of making a filter may also comprise forming a plurality of pleats free of bulbous pleat tip regions. A method of making a filter may comprise forming a plurality of pleats wherein a thickness of each pleat tip region at a point spaced about one to about four pleat leg thicknesses from the end of the pleat tip region is less than or equal to about twice the pleat leg thickness or is less than or equal to a distance between corresponding points on opposing outer surfaces of the pleat legs. An apparatus may comprise one or more dies arranged to reform a pleat tip region of a pleat.